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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Stanley Seay

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EXAMINER

HUYNH, NAM TRUNG

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/725,873	Applicant(s) SEAY, THOMAS STANLEY	
	Examiner NAM HUYNH	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in the reply filed on 3/17/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. This application contains claims 41-46 drawn to an invention nonelected without traverse in the reply filed on 3/17/2008. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 24-27 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Young et al. (US 6,324,405) (hereinafter Young).

Regarding claims 24 and 25, Young teaches a relay terminal for relaying communication signals from originator user terminals to identified destination user terminals, comprising (column 14, lines 38-45):

means for receiving a given communication signal sent from a given said originator terminal for relay to one or more selected said destination terminals (column 14, lines 10-11, call request);

means for deriving directional-position data associated with the given originator terminal by processing portions of the given signal received from the said originator terminal (column 11, lines 37-46); and

means for processing the derived directional-position data associated with the given originator terminal to form a beam path for communications with the given originator terminal (column 12, lines 20-25).

Regarding claim 26, Young teaches means for transmitting an error-corrected version of said received signal burst back to said given originator terminal within the formed beam path (column 12, lines 20-35).

Regarding claim 27, the limitations are rejected as applied to claims 25 and 26.

Regarding claim 37, Young teaches a communication network, comprising:

a plurality of user terminals for transmitting and receiving communication signals (column 12, lines 46-48); and

a relay terminal for relaying communication signals from one or more said user terminals to one or more said user terminals (column 6, lines 38-45);

wherein individual said user terminals are adapted for simultaneously receiving both a given signal transmitted directly from another user terminal and said given signal relayed by said relay terminal (column 11, lines 55-67; column 12, lines 1-41).

3. Claims 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Sauvageot et al. (US 2003/0073404).

Regarding claim 34, Sauvageot teaches means for applying frequency-hopping patterns to said received communication signals for said relay of said communications signals (paragraph 67);

means for storing a library of algorithms and parameters for executing a plurality of frequency-hopping patterns (paragraph 114); and

means for selecting algorithms and parameters from said library that cause different frequency-hopping patterns to be applied for each simultaneous said receipt and relay of said communication signals (paragraph 116).

Regarding claim 35, Sauvageot teaches the selecting means are adapted for causing respectively different said frequency-hopping patterns to be applied to acquisition, identification and payload segments of the relayed communication signals (paragraph 67).

Regarding claim 36, Sauvageot teaches means for applying frequency-hopping patterns to said received communication signals for said relay of said communications signals (paragraph 67); wherein respectively different said frequency-hopping patterns to be applied to acquisition, identification and payload segments of the relayed communication signals (paragraph 67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-3, 5-9, 15-23, 28, 32, 33, and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (US 6,324,405) (hereinafter Young) in view of Bi et al. (US 2005/0009522), and further in view of Redden et al. (US 5,490,087) (hereinafter Redden).

Regarding claims 1 and 22, Young teaches a relay terminal (column 6, lines 38-45, satellite/earth station node) for relaying communication signals from originator user terminals (column 12, lines 43-48, plurality of user terminal devices) to destination user terminals (column 13, lines 46-49, the system supports simultaneous calls from multiple users, therefore when simultaneous calls are being conducted, a plurality of destination terminals is rendered) comprising:

means for storing authorization data for a plurality of said user terminals having respective identification codes (column 8, lines 21-31; column 15, lines 1-43);

means for simultaneously receiving communication signals sent from a plurality of said originator terminals for relay to a plurality of said destination terminals that are identified in said received communication signals (column 3, lines 54-65; column 14, lines 6-13), wherein said received signals include identification codes for said originator terminals (column 7, lines 42-45) and identification codes for said identified destination terminals (column 14, lines 6-14, dialed number);

means for detecting said identification codes in said received communications signals (column 14, lines 6-14, RF stage);

However Young does not explicitly teach the storing of priority data and a means for processing said detected identification codes in combination with said stored data to determine if immediate relaying of said received communication signals to respective said identified destination terminals is authorized. Bi discloses a method for supporting multiple service levels in a wireless data network (title). In the scope of the invention, a database stores a user identification code associated with a given user and a service class (paragraph 13). This service class information may include a priority (paragraph 16). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the database of Young, to include priority data for authorizing users, as taught by Bi, in order to allow the network to offer different service levels to different users. This modification allows the system to differentiate among users and services depending on characteristics defined in a service class without requiring any changes to current wireless standards.

The combination of Young and Bi does not explicitly teach means for relaying said received communication signals immediately to only those of said identified destination terminals to which immediate relaying is authorized in accordance with said determination. Redden discloses radio channel access control (title). In the scope of the invention, a class identifier is assigned to a subscriber unit. During periods when it is desirable to limit acquisition of a satellite, users of a class with higher priority are allowed to access the satellite before users with a lower priority class (column 12, lines 50-67; column 13, lines 1-28). The Examiner takes the position that users with class identifier "1" will have access to the satellite "immediately", whereas users with a lower priority class identifier will have to wait or retry at another time. Therefore it would have been obvious to one of ordinary skill in the art to modify the combination of Young and Bi, to include prioritizing users and giving higher priority users immediate service, as taught by Redden, in order to allow a user to adjust his/her priority based on the type of service requested, such as an emergency situation.

Regarding claim 2, the combination of Young and Bi teaches means for updating said stored relay-authorization-and-priority data (Bi) immediately in response to a received control message (location update request) (Young column 10, lines 66-67; column 11, lines 3-15).

Regarding claim 3, Redden teaches processing means are adapted for re-determining said immediate-relay authorization in accordance with said updated stored relay-authorization-and-priority data and to preempt at least some previously authorized signal relaying in accordance with said re-determination (column 13, lines 6-12).

Regarding claims 5 and 23, Redden teaches the processing means are adapted for processing said detected identification codes and said stored data in combination with time-of-

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day data to determine whether immediate relaying of said received communication signals to respective said identified destination terminals is authorized in accordance with the time of day (column 14, lines 7-32).

Regarding claim 6, Redden teaches means for storing for delayed relay those received communication signals of which immediate relaying to respective said identified destination terminals is not authorized in accordance with said determination (column 13, lines 6-27, the classes that are inhibited are “delayed” since they can not access the satellite until higher priority users are served).

Regarding claim 7, further comprising means for recording data indicative of the performance of the relay terminal with respect to the timing of relaying said received communication signals in relation the time of receipt of the respective communication signals by the relay terminal (column 13, lines 44-59, loading and demand information).

Regarding claim 8, Redden teaches means for processing said recorded performance data to compile statistics for use in recomposing said stored relay-authorization-and-priority data (column 14, lines 7-50).

Regarding claim 9, Young teaches means for processing directional-position data associated with said destination terminals for defining beam paths for relaying signals to said destination terminals (column 12, lines 20-25).

Regarding claim 15, Young teaches means for processing directional-position data associated with a given said Originator terminal to form a beam path for communications with the given originator terminal (column 12, lines 20-35).

Regarding claim 16, Young teaches means for deriving directional-position data associated with a given said originator terminal within an acquisition segment of a burst of a said communication signal received from a given said originator terminal; and means for immediately defining a beam path in accordance with said derived directional-position data to enable receipt of the remaining portion of said received signal burst within the formed beam path (column 12, lines 20-35).

Regarding claims 17 and 18, Young teaches means for transmitting an error-corrected version of said received signal burst back to said given originator terminal within the formed beam path (column 12, lines 20-35).

Regarding claim 19, Young the receiving means are adapted for simultaneously receiving a plurality of communication signals within a plurality of distinct beam paths from a plurality of different originator terminals; and wherein the relaying means are adapted for simultaneously relaying communications signals within a plurality of distinct beam paths to a plurality of different destination terminals (column 12, lines 20-35).

Regarding claim 20, Young teaches receiving means include a plurality of receivers for respectively receiving said communication signals sent from said plurality of said originator terminals (column 12, lines 43-48, RF stage).

Regarding claim 21, the limitations are rejected as applied to claim 1. The references teach relaying through a satellite or ground station.

Regarding claim 28, the limitations are rejected as applied to claim 1, 9, and 15.

Regarding claim 32, Young teaches means for updating said stored position data by storing geographical-position data associated with at least one of said destination terminals (column 11, lines 3-15).

Regarding claim 33, Young teaches means for detecting user-terminal geographical-position data in a said received communication signal for storage as said updated position data (column 11, lines 37-46).

Regarding claim 38, the combination of Young and Redden teaches a user terminal for receiving communication signals, comprising:

a plurality of receivers for simultaneously receiving communications signals from respectively different sources (Young column 12, lines 43-48); and

a router for routing the received communication signals to at least one output device in accordance with a predetermined priority (Redden column 12, lines 50-67).

Regarding claim 39, Young teaches the receivers are respectively adapted for receiving at least two different communications signals among one or more network-specific signals (column 10, line 67, location update; column 12, lines 26-29, paging signal), common information signals, alert signals and paging signals; and

wherein the predetermined priority is established among the one or more network-specific signals, the common information signals, the alert signals and the paging signals.

Regarding claim 40, Young teaches one of the receivers is adapted for receiving a given signal transmitted directly from another user terminal and another of the receivers is adapted for receiving said given signal relayed by a relay terminal (column the earth station of Young can receive signals relayed from a satellite and a user terminal on the vehicle).

7. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being obvious over Young et al. (US 6,324,405) (hereinafter Young) in view of Bi et al. (US 2005/0009522), and further in view of Redden et al. (US 5,490,087) (hereinafter Redden) as applied to claims 1 and 9, and further in view of Sauvageot et al. (US 2003/0073404) (hereinafter Sauvageot).

Regarding claims 10 and 11, the combination of Young, Bi and Redden teaches the limitations set forth in claim 1, but does not explicitly teach means for applying frequency-hopping patterns to said received communication signals for said relay of said communications signals; means for storing a library of algorithms and parameters for executing a plurality of frequency-hopping patterns; and means for selecting algorithms and parameters from said library that cause different frequency-hopping patterns to be applied for each simultaneous said receipt and relay of said communication signals. Sauvageot discloses a non-geostationary satellite that sets up links between ground stations and terminals (abstract). Sauvageot teaches: means for applying frequency-hopping patterns to said received communication signals for said relay of said communications signals (paragraph 67);

means for storing a library of algorithms and parameters for executing a plurality of frequency-hopping patterns (paragraph 114); and

means for selecting algorithms and parameters from said library that cause different frequency-hopping patterns to be applied for each simultaneous said receipt and relay of said communication signals (paragraph 116).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Young, Bi, and Redden to include the frequency hopping capabilities, as taught by Sauvageot, in order to reduce switching between links which enables the use of a greater number of directional beams by the satellite.

Regarding claim 12, Sauvageot teaches the selecting means are adapted for causing respectively different said frequency-hopping patterns to be applied to acquisition, identification and payload segments of the relayed communication signals (paragraph 67).

Regarding claim 13, Sauvageot teaches means for causing respectively different said frequency-hopping patterns to be applied to acquisition, identification and payload segments of the relayed communication signals (paragraph 67).

Regarding claim 14, the combination of Young and Sauvageot teaches the relaying means are adapted for simultaneously relaying a plurality of communications signals (Young column 13, lines 46-58) and for applying a different frequency-hopping pattern to each said simultaneously relayed communication signal (Sauvageot paragraph 67).

8. Claims 4 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (US 6,324,405) (hereinafter Young) in view of Bi et al. (US 2005/0009522), and further in view of Redden et al. (US 5,490,087) (hereinafter Redden) as applied to claims 1 and 28, and further in view of Wang (US 5,563,606).

Regarding claims 4 and 29, the combination of Young, Bi and Redden teaches the limitations set forth in claims 1 and 28, but does not explicitly teach the processing means are adapted for processing said detected identification codes and said stored data in combination

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with geographical-position data for the relay terminal and the identified destination terminals to determine whether immediate relaying of said received communication signal to the respective identified destination terminals is authorized in accordance with the relative positions of the relay terminal and the identified destination terminals. Wang discloses a gateway for determining a called subscriber's location and ID and sends this information to a satellite (abstract). Wang teaches processing means are adapted for processing said detected identification codes (column 7, lines 5-6) and said stored data in combination with geographical-position data for the relay terminal and the identified destination terminals to determine whether immediate relaying of said received communication signal to the respective identified destination terminals is authorized in accordance with the relative positions of the relay terminal and the identified destination terminals (column 10, lines 15-49). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Young, Bi, and Redden, to include the consideration of the location of the destination terminal and satellite/ground station of the destination terminal, as taught by Wang, in authorizing immediate relay in order to identify an antenna beam where the destination subscriber is located so that the call may be quickly and efficiently routed.

Regarding claim 30, Wang teaches means for updating said stored position data by storing geographical-position data associated with at least one of said destination terminals (column 10, lines 3-13, 25-30).

Regarding claim 31, Young teaches means for detecting user-terminal geographical-position data in a said received communication signal for storage as said updated position data (column 11, lines 3-15).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAM HUYNH whose telephone number is (571)272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617

NTH
5/29/08